

AMENDMENT TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in the Application.

Listing of Claims:

Claim 1 (Currently amended): A disk drive managing method for managing disk drive in multiple disk-array system ~~containing at least one disk array, each array having at least one disk drive with an array configuration, said array configuration comprising an array signature and serial check sum of each disk drive in said array,~~ said method comprising the steps of:

providing an interface operable to access a plurality of disk-arrays coupled thereto, where data is distributed across each disk-array of said plurality of disk-arrays independently of said distribution across other disk-arrays of said plurality of disk-arrays;

~~detecting each disk drive of said system;~~

reading said an array configuration from said detected a disk drive coupled to a corresponding disk-array coupled to said interface, said array configuration including an array signature and a plurality of serial check sums, each of said plurality of serial check sums corresponding to a disk drive belonging to said corresponding disk-array;

validating said array signature of said disk drive;

reading said plurality of serial check sums sum of other another disk drive coupled to said corresponding disk-array from the same array;
determining if recognizing said disk-array to be corresponding to said plurality of serial check sums read in said serial check sums reading step is recorded as one of said plurality of disk-arrays coupled to said interface or not;
and

recording from said serial check sum corresponding to said disk drive in said plurality of serial check sums of said corresponding disk-array.

Claim 2 (Currently amended): The disk drive managing method as in claim 1, wherein said array signature is a specific predetermined value.

Claim 3 (Currently amended): The disk drive managing method as in claim 2, wherein said disk drive is an independent disk drive in a span array [[,]] if said array signature could not be validated in said array signature validating step, said span array being coupled to said interface value is fault.

Claim 4 (Currently amended): The disk drive managing method as in claim 1, wherein said serial check sum of each said corresponding disk drive in one array is arranged in said plurality of serial check sums according to a location of said disk drive in said corresponding disk-array sequentially.

Claim 5 (Currently amended): The disk drive managing method as in claim 4, wherein said serial checksum of each said corresponding disk drive is obtained by a numeration on a model number, a serial number, and a firmware revision number of said disk drive.

Claim 6 (Currently amended): The disk drive managing method as in claim 1, wherein each of said plurality of disk-arrays is identified by said plurality of serial check sums sum of each disk drive in one array can be used to identify said arrays.

Claim 7 (Currently amended): The disk drive managing method as in claim 1, further comprising a step of adding a new array record for a new disk-array array when said array corresponding disk-array is not recorded as one of said plurality of disk-arrays as determined in said disk-array recorded determining step in said system.

Claim 8 (Currently amended): The disk drive managing method as in claim 7, further comprising a step of assigning a new serial number for a to said new disk-array array.

Claim 9 (Currently amended): The disk drive managing method as in claim 1, further comprising steps of:

determining ~~checking~~ whether all disk drives in said plurality of disk-arrays have been detected; and
recording integrity properties for each disk-array in said plurality of disk-
arrays ~~all arrays.~~

Claim 10 (Currently amended): The disk drive managing method as in claim 9, wherein further including the step of determining from said integrity property is ~~for checking whether all disk drives recorded in said plurality of serial check sums sum of each disk drive of one array are said corresponding disk-array have been~~ detected and recorded ~~by said system.~~

Claim 11 (Currently amended): The disk drive managing method as in claim 9, wherein said array configuration is stored at said a last sector of each disk drive.

Claim 12 (Currently amended): A disk drive managing method for managing disk drive in multiple disk-array system containing at least one disk-array, ~~each array having at least one disk drive, each disk drive having an array signature and a serial check sum stored at said last sector thereof,~~ said method comprising the steps of:

providing an interface operable to access a plurality of disk-arrays coupled thereto, where data is distributed across each disk-array of said plurality of disk-arrays independently of said distribution across other disk-arrays of said plurality of disk-arrays;

detecting each disk drive from said system;

reading said a last sector from said detected a disk drive coupled to a corresponding disk-array coupled to said interface, said last sector having stored therein an array configuration including an array signature and a plurality of serial check sums, each of said plurality of serial check sums corresponding to a disk drive belonging to said corresponding disk-array;

validating said array signature of said disk drive;

reading said plurality of serial check sums sum of other another disk drive from the same array coupled to said corresponding disk-array;

determining if recognizing said disk-array to be corresponding to said plurality of serial check sums read in said serial check sums reading step is recorded as one of said plurality of disk drives coupled to said interface or not; and recording from said serial check sum corresponding to said disk drive in said plurality of serial check sums of said corresponding disk-array.

Claim 13 (Currently amended): The disk drive managing method as in claim 12, wherein said array signature has specific is a predetermined value.

Claim 14 (Currently amended): The disk drive managing method as in claim 12, wherein said array signature is stored at said a first position of said last sector.

Claim 15 (Currently amended): The disk drive managing method as in claim 12, wherein said serial check sum of each said corresponding disk drive in one array is arranged in said plurality of serial check sums according to a location of said disk drive in said corresponding disk-array sequentially.

Claim 16 (Currently amended): The disk drive managing method as in claim 15, wherein said serial check sum of each said corresponding disk drive is obtained by a numeration on a model number, a serial number, and a firmware revision number of said disk drive.

Claim 17 (Currently amended): The disk drive managing method as in claim 15, wherein each of said plurality of disk-arrays is identified by said plurality of serial check sums sum of each disk drive of each disk drive in one array can be used to identify said arrays.

Claim 18 (Currently amended): The disk drive managing method as in claim 12, further comprising the steps of:

adding an array record for recording a new disk-array when said corresponding disk-array is not recorded as one of said plurality of disk-arrays array; and

assigning a new serial number for said new disk-array array.

Claim 19 (Currently amended): The disk drive managing method as in claim 12, further comprising the steps of:

determining checking whether all disk drives in said plurality of disk-arrays have been detected; and

recording integrity properties for each disk-array in said plurality of disk-arrays all arrays.

Claim 20 (Currently amended): The disk drive managing method as in claim 19, ~~wherein further including the step of determining from said integrity property is for checking whether all disk drives recorded in said plurality of serial check sums sum of each disk drive in the same array are of said corresponding disk-array have been detected and recorded by said system.~~